

Emerging Technology for Insurance Companies: Where Do Actuaries Fit it in?

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Overview

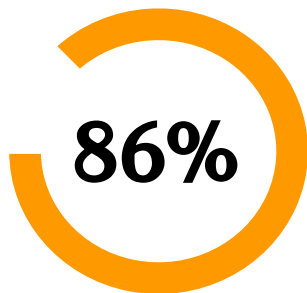
- Common Themes in Insurance
- How Tech is Changing the Industry
- Impact of Digital Experience
- Agile & Where do Actuaries Fit in?

...an all too Common Cycle

Stagnant Growth →



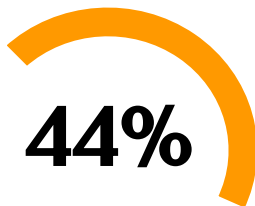
Common Themes



...of insurers believe they must innovate at an increasingly rapid pace simply to retain a competitive advantage*



...of insurance CEOs are concerned about shortages of digital skills within the industry and their workforce, which is the highest percentage of any industry**

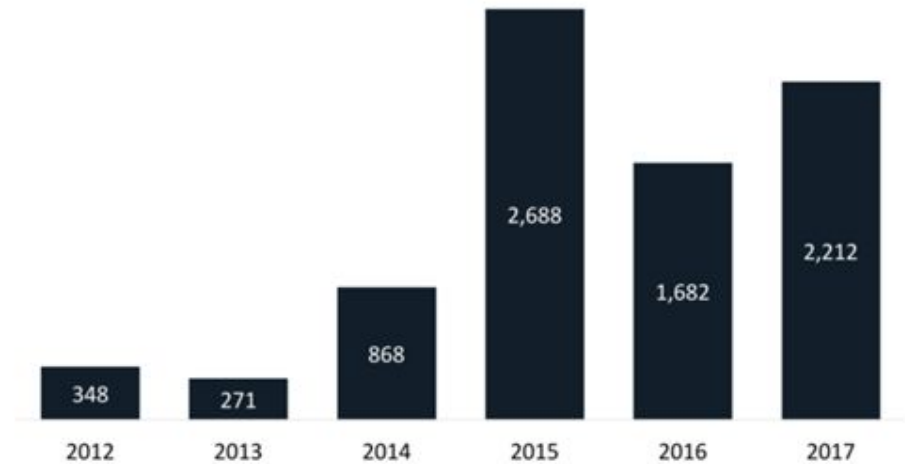


...of customers in the global insurance industry have had no interactions with their insurers during the prior 18 months***

Who is driving investment and decision making?

- Venture Capital, Incubators, & Start-ups
- Global Reinsurers
- Incumbent Internal Innovation

Annual VC Insurtech Funding
Global, millions (\$), 2018

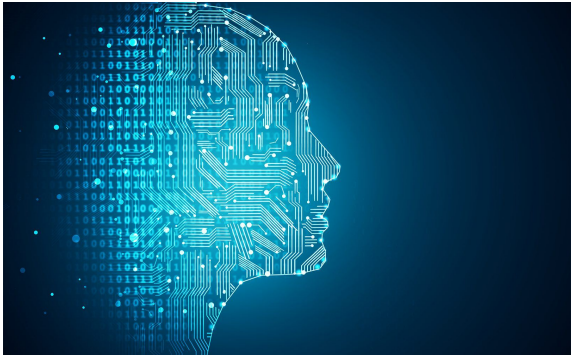


Source: CB Insights

BI INTELLIGENCE

How is the Industry Changing?

**Machine Learning,
Data Science, &
Artificial Intelligence**



**Internet of Things
(IoT)**

Digital-First Insurers

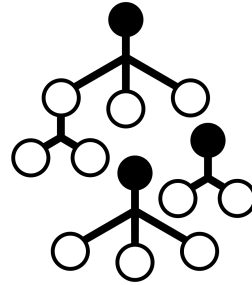


Data Science - Algorithmic Underwriting



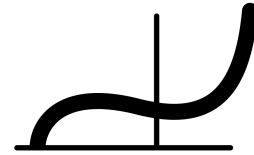
Data sources

Application data, driving history,
prescription and medical records,
lab results



Machine Learning

Random forests, GLM, NLP,
neural networks, and other
techniques



Calibration

Balancing mortality and pass
rates

Internet of Things - Wellness Programs



Incentives & Goals

Social and Behavioral Nudges



Tracking

New sources of BIG data now available

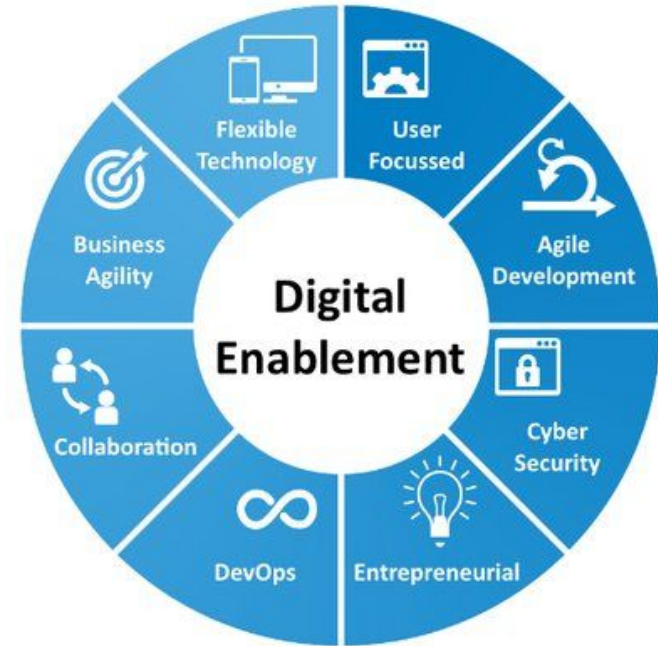


Win-Win

Improving access to insurance
Actionable Information
Sense of Achievement

Digital-First Insurer: Tech Enablement

Technology should **no longer viewed as a constraint**, but instead, as a competitive advantage for **sustainable growth, superior customer experience, and operational efficiency** at the center of all business decisions and actions.



Impact of Digital Experience

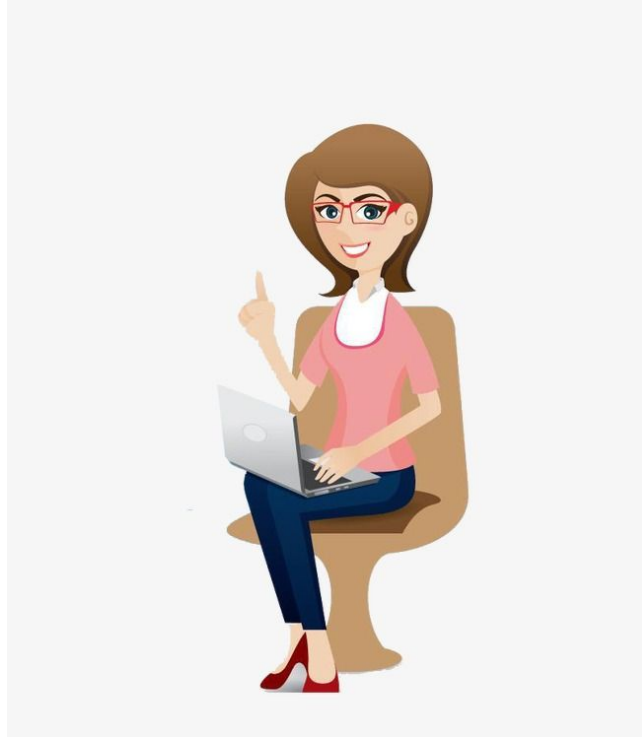
Customer Implications

- Greater Customer Centricity
- **Faster Issuance**
- Ease of Use & Self-Service
- Greater Transparency
- New Types of Brand Interactions
- **Increased Trust**

Business Implications

- Greater Control of Messaging
- **Quicker Market / Customer / Product Testing**
- **Better Product / Market Fit**
- Customer Insight (Data!)
- Cost Efficiencies
- New Distribution and Marketing Channels

Meet Sally



The New Marketing Funnel

Yesterday

- Sally calls up Bob, her broker
- She starts her application
- She forgets about the application
- Bob forgets about Sally

Sally goes uninsured

Today

- Sally researches insurance online
- She starts her application
- She forgets about the application
- Automatic reminders via email and SMS
- She finishes app and gets approved instantly

Sally is happy & insured

The New and Improved Buying Experience

Yesterday

- Sally sees a TV ad
- Sally calls up Bob, her agent
- Sally gets sold a complex product
- Bob goes home happy
- Sally remains confused

Bad Customer Outcome

Today

- Sally reads a great article about insurance and decides to buy
- Sally goes directly to the insurer's website to , educates herself
- Sally buys her policy in minutes

Good Customer Outcome

How We Build

How **not to build** a minimum viable product



1



2



3



4

How **to build** a minimum viable product



1



2



3

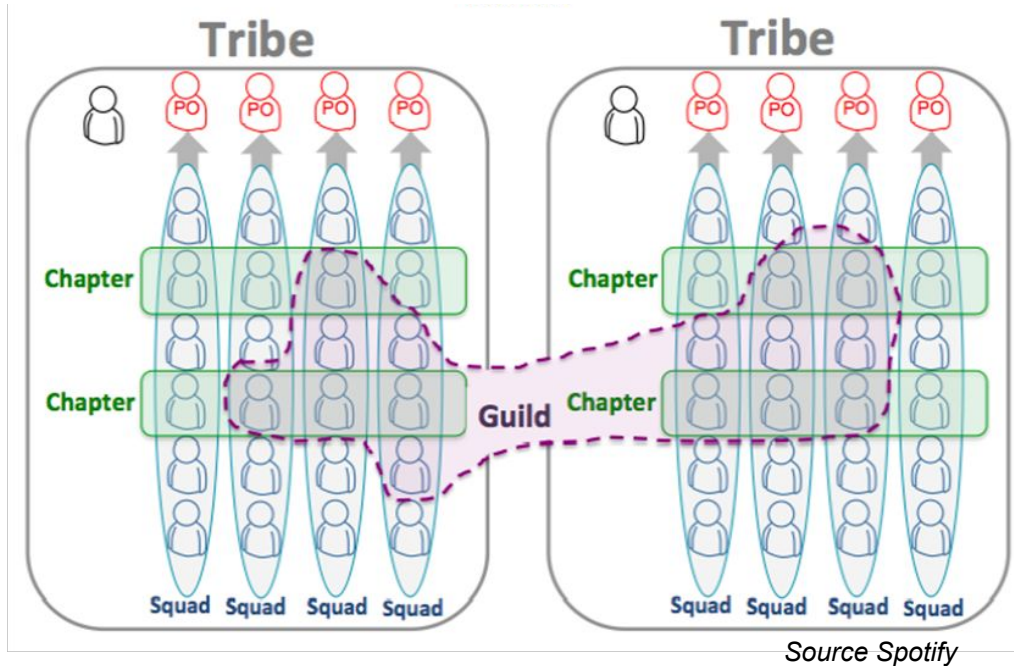


4



5

Our Team Structure to Maximize Collaboration



How do actuaries become effective technology contributors?

Incremental Actuarial Work

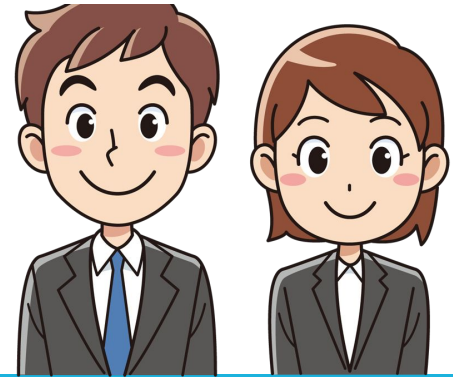
- Incremental approach to insurance
- Fail-fast & Fail-small approach
- Fewer but more meaningful controls
- Flexible to changing environment

Behaviors

- Openness to change and innovation
- Think differently
- Differentiate constraints from biases
- Flexible w/ changing roles & ambiguity

Example - Our Approach to Whole Life (via Advisor Distribution for MassMutual)

- Paired down to dilute complexity as much as possible for an MVP
- Shared prioritization of resources (tech, legal, marketing, actuarial, etc.)
- Incremental add-ons every couple weeks
- Quickly implement insights gained from learnings



Conclusion

- Educate on the why, not just the what
- Think creatively and flexibly
- Communicate product assumptions that need to be tested and validated
- Make yourself accessible to day to day decision making
- Keep up to date with novel technologies to recognize opportunities
- Don't assume that "If you build it, they will come"

Questions?

